

## **Reducing Impacts on Rare Vertebrates that Require Small Isolated Water Bodies along U.S. Highway 319**

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What began in 1993 as a modest study funded by two small grants from the U.S. Fish and Wildlife Service achieved closure in 2001 as a multi-partnered, interagency effort to investigate the life histories and ecology of two candidate species for federal threatened status, the striped newt (*Notophthalmus perstriatus*) and the gopher frog (*Rana capito*). Researchers led by Bruce Means, a Professor of Biology at Florida State University, investigated during the course of the project over 250 ponds, temporary and permanent, in Leon and Wakulla Counties. Support was provided, in turn, by the Apalachicola National Forest and the Coastal Plains Institute and Land Conservancy (1995-97) and by the Florida Department of Transportation (1997-2001).

Many of the study ponds lie adjacent to US Highway 319, including Study Pond #1, located at the junction of US Highway 319 and State Road 61, which has proven to be an important breeding pond for 27 species of amphibians and reptiles, and, notably, for the striped newt. This pond is split by US 319, and roadkill is a regular and problematic occurrence. With plans to four-lane this highway in five to seven years, FDOT funded a contract with Florida State University to investigate the ecology of the site in order to generate sufficient knowledge to mitigate impacts on the vertebrate species using temporary ponds along the highway.

Researchers identified a number of existing conditions that currently are disadvantageous to the species on Study Pond #1. Differences in the hydroperiods of the separated sections of Study Pond #1 result in migrations that are hazardous to the immigrants because of the traffic and the dessicating journey across uncongenial terrain. With the increased knowledge resulting from this research, future alterations to US 319 may be done so as to facilitate the migration and dispersal of the affected species across the highway right-of-way and so reduce the rate of highway mortality, which would benefit their chances for long-term survival.

[This article was adapted from the final report, *Reducing Impacts on Rare Vertebrates that Require Small Isolated Water Bodies along U.S. Highway 319* (BB-278), written by Dr. Bruce Means. For more information, please contact the project manager, David Zeigler, at (850) 922-7209, [david.zeigler@dot.state.fl.us](mailto:david.zeigler@dot.state.fl.us).]